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FILE

November 9, 1992

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FEDERAL COMMUNICATIONS COMMISSION
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Ms. Donna Searcy
Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: GEN. Docket No. 90-314
ET Docket No. 92-100
PP-79
Our File No. 1028-012

Dear Ms. Searcy:

Transmitted herewith for filing in the referenced dockets are an original and eleven (11) copies of "Comments of Dr. Charles I. Berlin".

If you have any questions regarding this matter, please do not hesitate to contact the undersigned.

Very truly yours,

Riley M. Murphy

/dar
cc: Dr. Charles I. Berlin

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matters of	)	
	)	
Amendment of the Commission's	)	GEN. Docket No. ET 90-314
Rules to Establish New Personal	)	ET Docket No. 92-100
Communications Services	)	
	)	
Request of	)	
	)	
FREEMAN ENGINEERING	)	PP-79
ASSOCIATES, INC.	)	
	)	
For Award of a Pioneer's	)	
Preference in the 930-931 MHz	)	
Band to Provide Two-Way Data	)	
and Advanced Paging Services	)	

To: The Commission

Comments of Dr. Charles I. Berlin

Dr. Charles I. Berlin, pursuant to Section 1.415 of the Rules, hereby submits his comments in response to the Commission's Notice of Proposed Rulemaking and Tentative Decision, FCC 92-333, released August 14, 1992 ("Tentative Decision") insofar as it tentatively concluded to deny Freeman Engineering Associates' ("Freeman's") request for a pioneer's preference (PP-79) in ET Docket No. 92-100. In support hereof the following is shown:

1.) The Federal Communications Commission has requested comments in the rulemaking proceeding, FCC 92-333.

2.) Dr. Berlin has spent many years in both clinical and research areas relating to hearing impairment. He is presently Director of the Kresge Hearing Research Laboratory of the South, which is known worldwide as an institution on the cutting edge of new technology for medicine and for the hearing impaired. His qualifications and literature on the Kresge Laboratory are set forth in Attachment A.

3.) The Americans with Disabilities Act has provided for improved telephone services to hearing impaired persons. Freeman's proposal recognizes the need for wireless communications among the deaf community, with an innovative plan to implement the services.

4.) There has been considerable difficulty in the deaf community in using radio paging devices in the past. Conventional radio paging devices solve the problem of passing the message to the deaf individual by inclusion of a vibrator in the paging receiver, which alerts him that the call has come in, and an alpha-numeric or numeric message which he can read. The problem in responding to the page however, is enormous. Suppose he is a public place and receives a page. He must find a telephone with a telephone device for the deaf ("TDD")[1]. This has, in the past, been a very difficult task, and in the alternative it is easier to write a message and have someone place a telephone call for him. This is a

[1]A TDD is a small computer or teletype terminal on which a hearing impaired person can communicate over the telephone by typing messages to the person on the other end with a similarly equipped device. Relay or translator services are made available across the country whereby the hearing impaired person can have his typing converted to conversation in order to communicate with hearing persons.

significant burden on the deaf community which could be alleviated by the Commission promulgating rules which allow for the efficient use of TDD and other response devices over the new Advanced Messaging and PCS services.

5.) Dr. Berlin has read the proposals by Freeman Engineering Associates in its request for Pioneer's Preference in Docket No. ET 92-100 and General Docket No. 90-314 and he finds that the unique solutions that they have proposed in their request fill a void which is needed very badly by the deaf community.

6.) The unique way in which Freeman proposes to use a reverse channel in its request for Pioneer's Preference for its enhanced paging service (EPS) will allow the deaf individual to respond to the page immediately and reply with a very brief message back to the calling party. After having discussed this with Freeman Engineering, Dr. Berlin understands the message can be sent back to either a TDD device, electronic mail, or by using a synthesized voice message the reply can be sent back to a hearing person. The reply can be user-selectable, thus providing the necessary return link according to the calling party's preference and need.

7.) Having known Freeman Engineering's President, Harrell Freeman, for some time, Dr. Berlin is aware of his engineering and innovative skills. In fact, the Kresge Hearing Research Laboratory, which is affiliated with the Louisiana State University Medical School in New Orleans, Louisiana, honored Harrell Freeman this year as the recipient of the 1992 KAM Award for his contribution to the research effort at Kresge. He applauds the fact the Mr. Freeman has recognized the need to help hearing impaired persons by including special

Freeman Engineering, Dr. Berlin understands the message can be sent back to

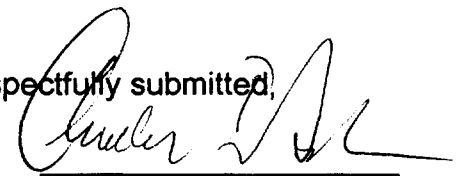
technology in his innovations for their benefit. Dr. Berlin believes the Commission should take into account the result of Mr. Freeman's innovation, and adopt rules which will allow the acknowledgment paging on one hand, and the packet TDD PCS on the other hand, to be accomplished.

8.) In Freeman Engineering's request for Pioneer's Preference for improved personal communication service in Docket No. 90-314, Freeman has described a packet type arrangement for TDD which conserves frequency resource. By combining the dispatch type arrangement with the TDD enhancement that Freeman's proposal allows, the TDD calls will be interleaved on the channel rather than requiring spectrum to be set aside during the entire duration of the call. One of the problems with using TDD with conversational cellular is that the holding times for the calls are much longer than for a spoken call. For example, on conventional telephone and cellular, the deaf person must keep a telephone call active until he has completed the message exchange. With this dispatch (packet) arrangement described in the Freeman Engineering Pioneer's Preference Request, the TDD device only need transmit when the message is ready. The switching equipment provided by Freeman Engineering will sort out the messages and get them to the appropriate calling party. This will allow for spectrum conservation and at the same time meet the needs of the deaf community which heretofore has had significant problem in operating TDD devices in a wireless environment, due to cost of airtime.

9.) In conclusion, Dr. Berlin urges the Commission to adopt rules which will allow for a packet-type operation, that does not restrict the use of the PCS service, so that the TDD devices can be accommodated effectively. This type of operation should result in lower cost to the TDD user, than would otherwise be

possible when full channel utilization during idle times between transmission of sentences which are being composed. Dr. Berlin also urges the Commission to adopt rules which allocate the reverse channel on AMS Narrowband PCS so that acknowledgment can be made of receipt of a paging message by a deaf person without the cumbersome use of a wire phone and TDD device. He further urges the Commission to set aside Paragraph No. 154 of the Tentative Decision, and to grant Freeman Engineering's Request for Pioneer's Preference.

Respectfully submitted,

By: 
Dr. Charles I. Berlin

Of Counsel

Riley M. Murphy
1100 Poydras Street Suite 2950
New Orleans, LA 70163

Dated: November 9, 1992

CERTIFICATE OF SERVICE

I hereby certify that I am an attorney and that on the 9th day of November, 1992, I will cause to be mailed by first class United States mail, postage prepaid, a copy of the foregoing "Comments of Dr. Charles I. Berlin" to the following:

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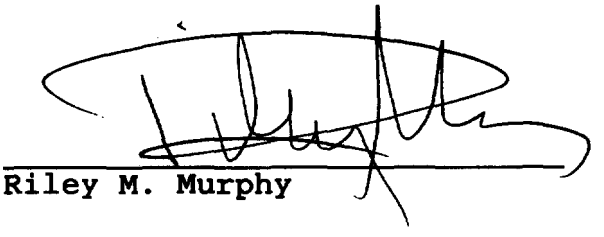

Riley M. Murphy

Attachment A

Curriculum Vitae of Charles I. Berlin

and

An Introduction to Kresge Research Laboratory of the South

CURRICULUM VITAE

CHARLES I. BERLIN

Date of Birth: December 26, 1933

Place of Birth: Brooklyn, New York

Home Address: 6001 Pratt Drive
New Orleans, LA 70122

Telephone: Office - 504/568-4785
Voice Mail - 800/835-3269; I.D. # 283-4508
Home - 504/283-0569 (unlisted)

Education:

S. J. Tilden High School, Brooklyn, New York, 1950.

New York University School of Arts and Sciences, Majors in Metereology (School of Engineering), English (School of Arts), Minors in Sociology, Speech, B.S. Degree, 1953.

University of Wisconsin, Speech & Hearing, Minor in Psychology, M.A. Degree, 1954.

University of Pittsburgh, Ph.D., Speech & Hearing, completed October, 1957, awarded January 1958.

U.S. Army Short Course for Psychologists, Letterman Hospital, San Francisco, CA, 1958.

Miami Medical Center, University of Florida, Short Course, Organic Voice and Speech Disorders, 1960.

Communication Sciences Seminars, University of Florida (Hearing Sciences), 1963.

Communication Sciences Seminars, University of Florida (Speech Sciences), 1964.

Speech Synthesis and Analysis Seminars, with G. Fant, University of Florida, 1966.

Medical Audiology Workshop, University of Colorado School of Medicine, 1966.

Research Career Development Award, 5K3 NB 19, 488, 1963-1967.

Special Post-doctoral Studies in Auditory Physiology, The Johns Hopkins Medical Institutions, 1963-1967.

Professional Status and Experience:

1952-1953	Meteorology Lab Assistant, School of Engineering, New York University, Bronx, New York.
1954-1957	Graduate Assistant, Research Assistant, University of Pittsburgh, Pittsburgh, PA.
9/57-1/58	Consultant, Brooklyn College, Community Speech & Hearing Clinic, Evening Division. Cerebral Palsy patients as primary caseload. High School teacher, New York City School System, Brooklyn, New York.
1/58-12/59	Military Service, Speech and Hearing Specialist, U.S. Army, Letterman General Hospital, San Francisco, CA. Speech Pathologist/Audiologist. Children and adult problems seen as a general caseload.
12/59-12/61	Audiologist and Speech Pathologist, USVA Hospital, San Francisco, CA. Laryngectomy and compensation patients as primary caseload.
1959-1961	Consultant in Speech and Hearing, May T. Morrison Center for Rehabilitation, San Francisco, CA. Aphasia and children's rehabilitation.
1959	Visiting Lecturer, College of Marin, Kentfield, CA. Speech Pathology - Stuttering.
1/62-6/63	Post-doctoral Fellow in Medical Audiology, The Johns Hopkins Medical Institutions, Baltimore, MD.
7/63-5/67	Research Career Development Award, 5K3 NB 19, 488 in conjunction with appointment as Assistant Professor, Laryngology and Otology, School of Medicine, The Johns Hopkins Medical Institutions, Baltimore, MD. Assistant Professor, Environmental Medicine, School of Hygiene, The Johns Hopkins Medical Institutions, Baltimore, MD.
9/66	Advisory Scientist, Information Center for Hearing, Speech, and Disorders of Human Communication, The Johns Hopkins Medical Institutions, Baltimore, MD.

6/67	Associate Professor, Department of Otorhinolaryngology & Biocommunication; Director, Communication Sciences Laboratory, Louisiana State University Medical Center, New Orleans, LA.
1974-1979	Coordinator, Self-Instructional Material Program (S.I.M.P.), Louisiana State University Medical Center, New Orleans, LA.
Spring 1975-1979	Official Representative, Louisiana State University Medical Center, Association of American Medical Colleges, Department of Academic Affairs, New Orleans, LA.
1/81-10/85	Co-Director (with D. Mouney, M.D.) & Chief Audiology Consultant at Joachim Hearing & Speech Center, Eye and Ear Hospital of Louisiana.
5/69-Present	Director, Kresge Hearing Research Laboratory of the South, Department of Otorhinolaryngology & Biocommunication, Louisiana State University Medical Center, New Orleans, LA.
7/70-Present	Professor, Departments of Otorhinolaryngology & Biocommunication and Physiology, Louisiana State University Medical Center, New Orleans, LA.
7/70-Present	Clinical Professor, Department of Psychology, University of New Orleans, New Orleans, LA.
1974-Present	Professor, Department of Communication Disorders, School of Allied Health Professions, Louisiana State University Medical Center, New Orleans, LA.
3/75-Present	Audiology Consultant, Audiology and Speech Pathology Service, Veterans Administration Hospital, New Orleans, LA.
10/85-Present	Director, Audiology Services, Department of Otolaryngology, Louisiana State University Medical Center, New Orleans, LA.

Professional Activities:

1963-1964	Editor, Maryland Journal of Speech and Hearing.
1963-1966	Associate Editor, Journal of Speech and Hearing Research.
1969-1972	Basic Science Member, American Academy of Otorhinolaryngology, Special Task Force for Revision of Board Examination.

1969-1972	Co-Examiner, American Speech & Hearing Association (one of three writers of ASHA Clinical Audiology Examination).
1972-1978	Member, American Academy of Ophthalmology & Otolaryngology, Committee of Video-Extension (COVE).
Jan. 1973	Member, Louisiana State Board of Examiners in Speech Pathology and Audiology. Licensed in Audiology and Speech Pathology (License # 005).
1/73-Present	Member, NAS-NRS Committee on Hearing, Bioacoustics, and Biomechanics, National Research Council (CHABA).
2/73-1/77	Chairman, American Speech & Hearing Association, Scientific Affairs Committee.
4/75-1978	Member, Advisory Committee, Subcommittee on Self-Instructional Programs, American Academy of Ophthalmology & Otolaryngology.
2/76-1/79	Member, Graduate Council, Louisiana State University Medical Center; Executive Graduate Council, Louisiana State University System.
7/76-6/77	Vice-President and President Elect, Board of Health Sciences Consortium, Inc., Chapel Hill, North Carolina.
8/76-1/77	Secretary, Louisiana State Board of Examiners in Speech Pathology and Audiology.
7/77-6/78	President, Board of Directors, Health Sciences Consortium, Inc., Chapel Hill, North Carolina.
1978-1981	Member, Research Advisory Committee to the Deafness Research Foundation.
1978-Present	NINCDS/NIDCD Ad-Hoc Reviewer.
1983-1986	Member NIH-NINCDS-DRG Study Section BNS #4.
1986-1988	Vice-President for Scientific & Educational Affairs, American Speech-Language-Hearing Association.
1987-1989	Reviewer, Deafness Research Foundation.

1989-present	Member, Advisory Board of the National Institute of Deafness and Other Communication Disorders.
1989-1990	Consultant to FDA on Cochlear Implants.

Honors:

New York State Competitive Scholarship, 1950.

USPHS Travel and Training Awards, 1960, 1963, 1964, and 1966 (various workshops).

NINDB Special Fellowship, Medical Audiology, The Johns Hopkins Medical Institutions, BT-856, 1961.

ASHA NINDB Foreign Travel Award, International Congress of Audiology, 1962.

Research Career Development Award, 5K3 NB 19, 488, July, 1963.

Awarded First Place for Excellence of Presentation and Second Place for Scientific Merit by the American Speech & Hearing Association, Scientific Exhibit, "Topography of cochlear structures and the organ of Corti", November, 1969.

Fellow, American Speech & Hearing Association, 1969.

Full Member, Sigma Xi, 1969.

Awarded First Place for Scientific Merit by the American Speech & Hearing Association, Scientific Exhibit, "Relationship of structure to function in human and animal temporal bones", November, 1971.

Agnes B. Noyes Award for "Human Electrocochleography", grant from the Deafness Research Foundation, 1974, 1975.

Alfred P. Sloan Foundation, Facilitator Award, Health Sciences Consortium, 1975.

First Annual Scientific Achievement Award for Innovative Contributions to Audiological Science, Southern Audiological Society, 1975.

Certificate of Award for Distinguished Services, American Academy of Ophthalmology & Otolaryngology, October, 1976.

Outstanding Faculty Award for Presentation Excellence, 12th Colorado Otology/Audiology Workshop, Ltd., Vail, Colorado, March, 1978.

Chosen one of "83 to Watch in '83", New Orleans Magazine, 1983.

Recipient of the First Louis Di Carlo Award, September, 1983, for outstanding Clinical Contributions L.A.S.H.A., and Louisiana's Representative to the National Competition for 1983.

Second DiCarlo Award for 1989 for outstanding clinical contribution to LASHA.

IHAS Distinguished Contribution to Hearing Research Award, 1984.

Distinguished Teaching Award for 1984 (Beltone) -- Cash Award and Scholarship for LSU.

Fellow, Acoustical Society of America, 1989.

Awarded First Place for Scientific Merit "Basic science and current audiological practice". Contributors: Berlin, C.I., Bobbin, R.P., Collins, M.J., Cullen, J.K., Jr., Hood, L.J., and Webster, D.B., 1989.

Society Affiliations:

Acoustical Society of America

American Speech-Language-Hearing Association

American Association for the Advancement of Science

Greater New Orleans Society for the Neurosciences, President Elect, 1972

Greater New Orleans Society for the Neurosciences, President, 1973

American Association of Phonetic Sciences, 1973

American Academy of Ophthalmology & Otolaryngology, Associate Fellow, 1973

American Academy of Otolaryngology, Full Member, 1991

American Auditory Society, Charter Member, Member of the Executive Board, 1973

Academy of Aphasia, 1974

Southern Audiological Society, Honorary Member, 1975

Association for Research in Otolaryngology, American Academy of Ophthalmology & Otolaryngology, 1975

American Academy of Audiology, 1988

Grants Management and Acquisition:

Continuous holder of 1 or more major NIH Research Program Projects and/or Training Grants from 1963 to the present, and recipient of funds from DRF and other private sources (Lions of Louisiana; Kam's Fund; LSU Foundation; Anheuser-Busch; McDonnell-Douglass; Kresge Foundation, Kleberg Foundation, et al.).

Administration and Committees:

Director of Kresge Hearing Research Laboratory of the South since its inception; President, Health Sciences Consortium; member of numerous University and professional committees; member of interdisciplinary committees between hearing scientists and clinicians, engineers, and philanthropists. Graduate Faculty Council 1975-1982. Member-at-large, LSU Faculty Council 1985-1986. Chair LSU-LCME Faculty Subcommittee for 1988 Accreditation Site Visit. Elected member, LSU Faculty Assembly, 1988. Chair, Community Relations Committee, LSU Professional Practice Association, 1989.

Teaching:

Advanced Clinical Audiology for Otolaryngologists and Audiologists - 35 courses in 30 years (1959-1991).

Basic Auditory Brainstem Response - 32 courses in 14 years (1975-1991).

Auditory Physiology or Neurophysiology - 13 courses in 15 years (1975-1991).

Neuroscience for medical students, dental students, etc. (Auditory section - 13 hours with Labs for LSU and Tulane University) - 39 courses in 20 years (1972-present).

Real Ear Measurement in Hearing Aid Selection - 8 courses in 3 years (1988-1991)

Teaching Materials:

See vita for programmed instruction devices on decibels, binary numbers, Ohm's Law, tympanometry and reflexes, annotated videotapes for clinical audiology, and training tapes.

Legislative Experience:

Political Action Contact for LA Delegation, 1980-present
Support activities for New NIDCD (Deafness Institute)

Public Relations and Publicity:

Time Magazine, September, 1982
Discover Magazine, November, 1982
Nicolet Potentials, 1982
"Today Show", June, 1982
"That's Incredible", March, 1983
WTBS "Nice People", June, 1983
Times-Picayune (many articles), 1982-1984
New Orleans Magazine, 1983
Family Circle Magazine, October, 1987.
(Department selected as "America's Best Place to Come for Hearing Problems") Louisiana Lions Annual Sight and Sound Telethon - currently Primary Host; previously pianist and co-host, 1979-Present .
NBC News "Otoacoustic Emissions", 1990.

PUBLICATIONS

(Divided into Hearing, Speech Perception, Speech and Voice, Books, Reviews, Educational Materials, Abstracts)

Hearing:

Berlin, C.I. Hearing in mice via GSR audiometry. **J. Sp. Hear. Res. 6(4)**, 359-368, 1963.

Finck, A. and Berlin, C.I. Comparison between single unit responses in the auditory nerve and GSR determined thresholds in mice. **J. Aud. Res. 5**, 1-9, 1965.

Konigsmark, B.W., Berlin, C.I., Hollander, M.D., and McKusick, V.A. Study of familial deafness-hearing loss associated with dermatitis. **Proc. Second Internatl. Cong. Neuro-Genetics Neuro-Ophthalmol. 1**, 809-812, 1967.

Mengel, M.C., Konigsmark, B.W., Berlin, C.I., and McKusick, V.A. Recessive early-onset neural deafness. **Acta Otolaryngol. 64**, 313-336, 1967.

Berlin, C.I., Gill, A., and Leffler, Martha. Hearing in mice by GSR audiometry: I. Magnitude of unconditioned GSR as an index of frequency sensitivity. **J. Sp. Hear. Res. 11(1)**, 159-168, 1968.

Eldridge, R., Berlin, C.I., Money, J.W., and McKusick, V.A. Cochlear deafness, myopia, and intellectual impairment in an Amish family. **Arch. Otolaryngol. 88**, 49-54, 1968.

Gill, A. and Berlin, C.I. Hearing in mice by GSR audiometry: II. Magnitude of unconditioned GSR as a function of intensity and frequency interaction. **J. Sp. Hear. Res. 11(1)**, 169-178, 1968.

Konigsmark, B.W., Hollander, M.B., and Berlin, C.I. Familial neural hearing loss and atopic dermatitis. **J. Am. Med. Assoc. 204(11)**, 953-957, 1968.

Berlin, C.I., DiGiacomo, Elizabeth A., and Gill, A. Auditory screening of school children by volunteer mothers. **J. Sch. Health 44(2)**, 95-101, 1969.

Berlin, C.I., Majeau, Deborah A., and Steiner, Sylvia. Hearing and vocal output in normal, deaf, and infant mice. **J. Aud. Res. 9**, 318-331, 1969.

Majeau-Chargois, Deborah A., Berlin, C.I., and Whitehouse, G.D. Sonic boom effects on the organ of Corti. **Laryngoscope 80(4)**, 620-630, 1970.

Konigsmark, B.W., Mengel, M., and Berlin, C.I. Familial low frequency hearing loss. **Laryngoscope 81(5)**, 759-771, 1971.

Berlin, C.I. and Lowe, Sena S. Temporal and dichotic factors in central auditory testing. Chapter 15 - Differential diagnostic evaluation: Central Auditory Function. Book Chapter in: Jack Katz (Ed.), Handbook of Clinical Audiology. The Williams & Wilkins Co.: Baltimore, Maryland, 280-312, 1972.

Berlin, C.I., Lowe-Bell, Sena S., Janetta, P.J., and Kline, D.G. Central auditory deficits after temporal lobectomy. **Arch. Otolaryngol. 96**, 4-10, 1972.

Berlin, C.I., Lowe-Bell, Sena S., Porter, R.J., Jr., Berlin, Harriet L., and Thompson, C.L. Dichotic signs of the recognition of speech elements in normals, temporal lobectomees, and hemispherectomees. **IEEE Catalog No. 72, AFCRL 720120, Special Report No. 131**, Pp. 222-225, 1972.

Cullen, J.K., Jr., Ellis, M.S., Berlin, C.I., and Lousteau, R.J. Human acoustic nerve action potential recordings from the tympanic membrane without anesthesia. **Acta Otolaryngol. 74**, 15-22, 1972 and **1973 Year Book of Ear, Nose and Throat**, Pp. 16-18, 1973.

Berlin, C.I., Cullen, J.K., Jr., Ellis, M.S., Lousteau, R.J., Yarbrough, W.M., and Lyons, G.D., Jr. Clinical application of recording human VIIIth Nerve action potentials from the tympanic membrane. **Trans. Am. Acad. Ophthalmol. Otolaryngol. 78**, 401-410, 1974.

Lyons, G.D., Jr., Berlin, C.I., Lousteau, R.J., Ellis, M.S., and Yarbrough, W.M., Jr. Electrocochleography with retardates. **Laryngoscope 84(16)**, 990-997, 1974.

Berlin, C.I. and Cullen, J.K., Jr. The physical basis of impedance. Book Chapter in: James Jerger (Ed.), Handbook of Impedance Measurement. America Electromedics Corp. (Pub.), Dobbs Ferry: New York, New York, Pp. 1-20, 1975.

Berlin, C.I. New developments in evaluating central auditory mechanisms. **Ann. Otol. Rhinol. Laryngol. 85(6)**, 833, 1976.

Berlin, C.I. and Gondra, M.I. Extratympanic clinical electro-cochleography with clicks. Book Chapter In: Robert J. Ruben, Claus Elberling, and Gerhard Salomon (Eds.), Electrocochleography. University Park Press: Baltimore, Maryland, 1976.

Cullen, J.K., Jr., Berlin, C.I., Gondra, M., and Adams, M.L. Electro-cochleography in children: A retrospective study. **Arch. Otolaryngol. 102**, 482-486, 1976.

Mouney, D.F., Cullen, J.K., Jr., Gondra, M.I., and Berlin, C.I. Tone burst electrocochleography in humans. **Trans. Am. Acad. Ophthalmol. Otolaryngol. 82(3)**, 348-355, 1976.

Berlin, C.I. Hemispheric asymmetry in auditory tasks. Book Chapter In: S. Harnad, R. W. Doty, L. Goldstein, J. Jaynes, and G. Krauthamer (Eds.), Lateralization in the Nervous System, Academic Press, Inc.: New York, New York, Pp. 303-324, 1977.

Berlin, C.I. and Cullen, J.K., Jr. Acoustic problems in dichotic listening tasks. Book Chapter In: S. Segalowitz and F. Gruber (Eds.), Language Development and Neurological Theory, Academic Press, Inc.: New York, New York, Pp. 75-88, 1977.

Berlin, C.I., Cullen, J.K., Jr., Gondra, M.I., and Fourrier, D.G. Clinical experience with electrocochleography: Special applications in bone conduction. In: Shambaugh and Shea (Eds.), Proceedings of the Shambaugh Fifth International Workshop on Middle Ear Microsurgery and Fluctuant Hearing Loss, Strode: Huntsville, Alabama, Pp. 68-74, 1977.

Berlin, C.I. Electrophysiological indices of auditory function. Chapter Four In: F. N. Martin (Ed.), Pediatric Audiology, Prentice-Hall, Inc.: Englewood Cliffs, New Jersey, Pp. 113-173, 1978.

Berlin, C.I., Gondra, M.I., Casey, D.A., Marks, H.W., Chicola, J.P., Garrett, M.E., and Lyons, G.D., Jr. Bone-conduction electrocochleography: Clinical applications. **Laryngoscope 88(5)**, 756-763, 1978.

Berlin, C.I., Wexler, K.F., Jerger, J.F., Halperin, H.R., and Smith, S. Superior ultra-audiometric hearing: A new type of hearing loss which correlates highly with unusually good speech in the "profoundly deaf". **Otolaryngol. 86(1)**, ORL/111-ORL/116, 1978.

Mouney, D.F., Berlin, C.I., Cullen, J.K., Jr., and Hughes, L.F. Changes in the human eighth nerve action potential as a function of stimulation rate. **Acta Otolaryngol. 104**, 551-554, 1978.

Berlin, C.I. and Dobie, R.A. Electrophysiological measures of auditory function via electrocochleography and brainstem evoked responses. Book Chapter In: W. F. Rintelmann (Ed.), Hearing Assessment, University Park Press: Baltimore, Maryland, Pp. 425-458, 1979.

Dobie, R.A. and Berlin, C.I. Binaural interaction in brainstem evoked response. **Arch. Otolaryngol. 105**, 391-398, July, 1979.

Dobie, R.A. and Berlin, C.I. Influence of otitis media on hearing and development. **Ann. Otol. Rhinol. Laryngol. 88(5)**, Part 2, Sept.-Oct., 1979.

Mirabile, P.J., Porter, R.J., Jr., Hughes, L.F., and Berlin, C.I. Dichotic lag effect in children 7 to 15. **Dev. Psychol. 14(3)**, 277-285, 1979.

Berlin, C.I. Central deafness: Fact or fiction? In: Birth Defects: Original Article Series, March of Dimes Birth Defects Foundation, 16(7):47-57, 1980.

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Berlin, C.I. Ultra audiometric hearing in the hearing impaired and the use of upward-shifting translating hearing aids. In: Studies in the Use of Amplification for the Hearing Impaired. Excerpta Medica: Princeton, New Jersey, P. 44, 1980. Also published in **The Volta Review 84(7)**, 352-363, 1982.

Collins, M.J., Cullen, J.K., Jr., and Berlin, C.I. Auditory signal- processing in a hearing-impaired subject with residual ultra-audiometric hearing. **Audiology 20**, 347-361, 1981.

Berlin, C.I. and Gardi, J. Clinical application of auditory electrophysiology. In: R. D. Brown and E. A. Daigneault (Eds.), The Pharmacology of Hearing, John Wiley & Sons: New York, New York, 1981.

Berlin, C.I. and Shearer, P.D. Electrophysiological simulation of tinnitus. **CIBA Symposium**, Pp. 139-150, 1981.

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